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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,092	03/18/2004	Yoshiharu Hirakata	0756-7268	5308

31780 7590 01/18/2007
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EXAMINER

MENZ, DOUGLAS M

ART UNIT	PAPER NUMBER
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2891

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/803,092

Applicant(s)

HIRAKATA ET AL.

Examiner

Douglas M. Menz

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-27 is/are pending in the application.
- 4a) Of the above claim(s) 14, 15 and 18-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16, 17, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/14/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimbo (US 4924279) in view of Kamata et al. (US 7138682).

Regarding claim 16, Shimbo discloses a method for manufacturing a thin film transistor (Fig. 2 and Col. 2) comprising:

Forming a first conductive film (3, Fig. 2) over an insulating surface (1, Fig. 2);

Etching the first conductive film (3, Fig. 2) into a desired shape so as to form a first electrode;

Forming a first insulating film (17, Fig. 2) over the first electrode and the insulating surface;

Forming a second conductive film (2, Fig. 2) over the first insulating film (17, Fig. 2);

Forming a second electrode (2, Fig. 2) by etching the first insulating film and the second conductive film, thereby exposing a side surface of the first electrode, the first insulating film, and the second electrode;

Forming a semiconductor film (5, Fig. 2) at least over the exposed side surface;

Etching the semiconductor film into a semiconductor island (5, Fig. 2);

Forming a second insulating film (6, Fig. 2) and a third conductive film (4, Fig. 2) over the semiconductor film in sequence;

Etching the third conductive film (4, Fig. 2) into a desired shape so as to form a gate electrode (Col. 2).

Shimbo does not explicitly disclose wherein the semiconductor film comprises an organic material. Kamata discloses Thin-Film Transistors which incorporate a corresponding organic semiconductor as the semiconductor layer for the purpose of improving thin-film transistor characteristics (Col. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a semiconductor film that comprises an organic material into Shimbo's thin-film transistor because Kamata explicitly discloses that organic semiconductors have surpassed amorphous silicon thin-film transistors, in terms of basic performance characteristics (Col. 1).

Regarding claim 26, Kamata further discloses that the organic material includes at least one selected from the group consisting of polyphenylenevinylene derivative, polyfluorene derivative, polythiophene derivative, polyphenylene derivative and copolymer thereof, oligophenylene, and oligothiophene (Col. 4).

Regarding claim 27, Shimbo further discloses wherein a thickness of the first insulating film is 10 to 100nm (Col. 2).

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimbo (US 4924279) in view of Kamata et al. (US 7138682) and further in view of Cannella et al. (US 4547789).

Regarding claim 17, Shimbo in view of Kamata discloses the method for manufacturing a thin film transistor of claim 16, however, they do not disclose wherein the exposed side surface is etched so as to be slanted to the insulating surface. Cannella discloses wherein the exposed side surface is etched so as to be slanted to the insulating surface (Col. 4, lines: 50-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Cannella's slanted surface design into Shimbo method of manufacturing for the purpose of

increasing the current and speed of the device as explicitly taught by Cannella (Col. 3, lines: 15-25).

Response to Arguments

Applicant's arguments with respect to claims 16-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas M. Menz whose telephone number is 571-272-1877. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2891

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DM



1/5/07
Doug Menz